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/*
    Name: Text Encoder/Decoder
    Date: 11/19/15
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    Description:
*/

#include <iostream>
#include <cstdlib>
#include <fstream>
#include "filecheck.h"

using namespace std;

int main ()
{
    void Encoder (ifstream &text);
    void Decoder (ifstream &encoded_text);

    ifstream input, output;

    Encoder (input);
    Decoder (output);

    system("PAUSE");
    return 0;
}


void Encoder (ifstream &text)
{
    text.open("input.txt");
    checkinputopened(text);

    ofstream encoded_text;
    encoded_text.open("encoded.enc.txt");
    checkoutputopened(encoded_text);

    char previous_byte, byte, repeats = '1';

    text.get(previous_byte);
    text.get(byte);

    while (!text.eof) {

        if (previous_byte == byte) {

            encoded_text.put(previous_byte);
            encoded_text.put (byte);
            while (previous_byte == byte) {
                    text.get(previous_byte);
                    text.get(byte);
                    repeats++;
            }
            encoded_text.put(repeats);
            repeats = '1';
        }
        else {
            encoded_text.put(previous_byte);
            encoded_text.put(byte);
            previous_byte = byte;
            text.get(byte);
        }
    }

    text.close();
```

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67      encoded_text.close();
68
69  }
70
71
72  void Decoder(ifstream &encoded_text)
73  {
74      encoded_text.open("encoded.enc.txt");
75      checkinputopened(encoded_text);
76
77      ofstream text;
78      text.open("output.txt");
79      checkoutputopened(text);
80
81
82      char previous_byte, byte, repeats,i;
83
84      encoded_text.get(previous_byte);
85      while (!encoded_text.eof()) {
86
87          encoded_text.get(byte);
88
89          if (byte == previous_byte) {
90
91              text.put(previous_byte);
92              text.put(byte);
93              encoded_text.get(repeats);
94
95              for (i=0; i < 2*(repeats-49); i++)
96                  text.put(byte);
97
98              encoded_text.get(previous_byte);
99              if (previous_byte == byte) {
100                     text.put(previous_byte);
101                     encoded_text.get(previous_byte);
102             }
103         }
104         else {
105             text.put(previous_byte);
106             text.put(byte);
107             encoded_text.get(previous_byte);
108         }
109     }
110
111
112     text.close();
113     encoded_text.close();
114 }
```